ECONOMICS

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Influence of reverse stock splits on share quotations on the Polish NewConnect market

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Abstract. The NewConnect market was intended for emerging markets with great technological and progressive potential which do not meet requirements of regulated market. Low formal requirements allowing issuers' shares onto the market and aiming to encourage stock exchanges to enter the market have contributed to quantitative growth of this market but at the same time have given rise to a number of irregularities in its functioning. One of the most important is a big number of penny stocks which prices are subject to significant fluctuations. Issuers, according to procedures developed by market organizer, should submit their shares for the operation of reverse stock splits.

R*everse stock split* (RSS) consists in decreasing the number of shares with simultaneous proportional increasing their face value. RSS does not affect the issuers' rights and does not change the structure of shareholding either. Despite the fact that it is a clearly technical operation, studies carried out across the world prove occurrence of a negative 'effect of reverse split'.

The aim of the study is to conduct literature research on the effect of RSS and start examinations of the influence of RSS operation on rates and volume of turnover of shares quoted on the NewConnect market. Analyses taken in this study are a part of bigger research concerning the functioning of the Polish stock market and will be continued in the future.

Keywords: Warsaw Stock Exchange, NewConnect, Multilateral Trading Facilities, Capital Market, Reverse Stock Splits, Penny Stocks.

Introduction

In accordance with a Directive of the European Parliament stock exchanges operating regulated markets can make and establish turnover rules at multilateral trading facilities – MTF [5]. The pioneer of alternative markets in Europe was London Stock Exchange, which started the AIM market in 1995. In 2007 Warsaw Stock Exchange (WSE) joined the group of stock exchanges which establish alternative turnover.

The NewConnect (NC) market, acting as unregulated market, does not come under a direct supervision of the Polish Financial Supervision Authority. It was intended for emerging markets with great technological and progressive potential which do not meet requirements of regulated market. Low formal requirements allowing issuers' shares onto the market and aiming to encourage stock exchanges to enter the market have contributed to quantitative growth of this market but at the same time have given rise to a number of irregularities in its functioning [1]. One of the most important is a big number of penny stocks which prices are subject to significant fluctuations. Issuers, according to procedures developed by market organizer, should submit their shares for the operation of reverse stock splits.

R*everse stock split* (RSS) consists in decreasing the number of shares with simultaneous proportional increasing their face value. RSS does not affect the issuers' rights and does not change the structure of shareholding either [19]. Despite the fact that it is a clearly technical operation, studies carried out across the world prove occurrence of a negative 'effect of reverse split'.

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1. Motives of carrying out a reverse split

In the subject literature a few determinants of making decision about RSS are mentioned [Com:14;18]. The most important seems to be the aspect of liquidity. Studies have shown that actually reverse stock split has the influence on the increase of volume and additionally there are definitely fewer periods without transactions [7]. One of the reasons should be seen in a possibility of setting security deposits on shares after RSS. Such an opportunity does not often occur in case of '*penny stocks*' [7]. It may significantly affect the change of perception of company and encourage new investors. Very important is also an opportunity of the marketing effect achievement – getting rid of opinions about junk bonds and return of price to optimal price range[Com:4;8].

However, in many cases RSS is a necessity resulting from rules regulating turnover of shares on markets. Many stocks exchanges all over the world have established criteria of minimum share price. '*Penny stocks*' might be eliminated from index calculations, transferred to quote systems which are little attractive for investors, temporarily suspended in turnover and even removed from the market. Such regulations are valid for instance on NYSE Euronext, NASDAQ or AMEX.[1] The regulations of WSE and NewConnect also define rules of market turnover for penny stocks.[2]

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[1] See: http://nyserules.nyse.com/nyse/rules/; http://www.sec.gov/rules/sro/nyseamex.shtml; http://www.sec.gov/rules/sro/nasdaq/2013/34-70269.pdf [3.11.2013]

[2] More on the subject of regulation of the NewConnect market in the next item of the article.

2. Reverse split operations on NewConnect

Although reverse split is the complete opposite of stock split, operations themselves significantly differ from each other. In case of division, exchange ratio might be arbitrary and provided that it does not contain fractional quantities(e.g. 1:1,5 or 1,5:2) it can be conducted without any problems. In many cases RSS is more difficult operation since a number of issued shares must be divisible by exchange ratio. If it is not, a company must issue additional shares.[3] Moreover, it is very unlikely for issuers to have a number of shares corresponding with exchange ratio or its multiple. Almost always there is a problem of so called 'reverse split residues'. Polish legislation basically allows for only two ways of solving this problem:

– allocation of one new share when investor does not have a minimum number necessary for exchange or when 're-verse split residue' remains from exchange; deficits in this case can be covered by main shareholder or institution acting on the basis of agreement with issuer who renounces his shares free of charge;
– buyout of 'reverse split residues' from shareholders in order to amortize at a price determined by AGM of a company.

Although the problem of penny stocks affects also the Polish regulated market, it is particularly visible on the Polish MTF market. On the NewConnect market over half of quoted companies have their market price lower than 1 PLN. Among them shares of as many as 64 companies cost less than 10 grosz (Table 1).

Table 1

Market value of shares listed on the NewConnect market in 2007-X'2013 (at the end of October 2013) (Source: Own study)

Price range	Number of shares at a given price range						
Year	2007	2008	2009	2010	2011	2012	X' 2013
0,01-0,09	0	3	6	9	28	53	64
0,10-0,99	1	30	35	61	138	168	164
1,0-9,99	18	47	54	94	146	168	174
>10,00	5	4	12	21	39	40	44
Total number of companies	24	84	107	185	351	429	446
% of the company's share prices < 1 PLN	4.17	39.29	38.32	37.84	47.29	51.52	51.12
% of the company's share prices < 10 groszy	0.00	3.57	5.61	4.86	7.98	12.35	14.35

WSE, while noticing irregularities of the market functioning, has introduced the requirement of minimum face value of share and set this quantity at 10 grosz. Moreover it carried out a new segmentation of the market by allocating risky segments for investors. From the perspective of this publication the most important is segment Super High Liquidity Risk (NC SHLR).

Table 2

Characteristics of reverse split operations on the NewConnect market (Source: Own study)

	Date of quotation before change	Closing price before change	Change ratio	Date of quotation after change	Closing price after change
Agroma	22.07.2010	0,02	1--50	10.08.2010	1,14
Apis (d. HMSG)	22.10.2010	0,04	1--5	12.11.2010	0,22
Hurtimex	04.11.2010	0,04	1--20	24.11.2010	0,77
Urlopy PL	22.12.2010	0,08	1--36	13.01.2011	3,24
BPI	24.08.2011	0,12	1--10	21.09.2011	1,34
Inbook	19.10.2011	0,06	1--10	8.11.2011	0,6
Foneco	19.10.2011	0,32	1--29	9.11.2011	9,69
ATSEnergy	10.04.2012	0,02	1--50	30.04.2012	0,66
Veno	18.05.2012	0,02	1--155	21.05.2012	1,76
PCZ	23.05.2012	0,20	1--100	12.06.2012	19,99
Cerabud	09.08.2012	0,02	1--100	29.08.2012	1,00
Kupiec	06.09.2012	0,08	1--10	25.09.2012	1,00
Aleja	02.11.2012	0,04	1--10	21.11.2012	0,45
LUG	07.11.2012	0,13	1--25	26.11.2012	3,42
Pakademia	23.11.2012	0,04	1--100	14.12.2012	4,00

Those companies can be classified to NC SHLR segment which arithmetic mean of share value in free turnover from the last three months is less than 1.000.000 PLN and which shares are characterized by mean rate lower than 10 grosz or mean variability exceeding 10%. What is more, qualification to the segment is conditioned each time by declaration of bankruptcy or opening liquidation of issuer.[4] Qualification of companies to NC SHLR segment is associated with their exclusion from indexed portfolio, marking in a special way in Stock services and transfer of shares to fixing quotations.[5] In addition, the market organizer suggests a necessity of conducting the operation of reverse split by issuers.

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[3] Additional share issue had to be taken by quoted on WSE - Bioton, issuing 3688 shares, only to make total number of shares divisible by exchange ratio: See: http://www.parkiet.com/artykul/7,1345626-Bioton--scalenie-ma-zakonczyc-sie-w-grudniu.html

[4] Detailed rules of company classification into particular segments are available on website: http://www.newconnect.pl/index.php?page=root_en [3.11.2013]
[5] During the last revision o segments made by WSE in September 2013, shares of 38 issuers were qualified to NC SHLR. See: http://newconnect.pl/pub/dokumenty_do_pobrania/SHLR_HLR_tabela_wrzesien_2013.pdf [3.11.2013]

The first company quoted on NewConnect, which carried out the reverse split operation was Agroma. It was not the first reverse split on the Polish stock market though. In May 2009 reverse stock split was conducted by a company FON, quoted on WSE. Until July 2010 i.e. the date of reverse split by Agroma, on WSE four other companies carried out reverse split (PC Guard, Orzeł, Elkop, Sanwil).[6]

By the end of 2012 fifteen issuers successfully carried out reverse stock split on NewConnect. All of them were classified as '*penny stock*'. In the vast majority of cases reverse split was the response of companies to classification of their shares to NC SHLR segment with all consequences.

3. Studies of influence of reverse splits on share quotations

Reverse split is a clearly technical operation which does not bring any extra value to a company or shareholders. So theoretically their influence on share quotations of companies carrying out those operations should be indifferent. However straight majority of scientific studies investigating the influence of reverse split on share quotations have proved a negative 'effect of reverse split'.

Occurrence of negative surplus rates of return on the American market was shown in early research on that problem by Radcliffe & Gillespie [19], Woolridge & Chambers [21] and Grinblatt, Masulis, and Titman [6]. Later it was confirmed by Han [7], who revealed negative rates of return before and on the day of reverse split as well as increased volume after reverse split.

Ohlson & Pelman [17] found an increased variability of share rates after the date of reverse split. Lamoureux & Poon [12] showed a constant variability of quotations measured by beta coefficient and thus proved negative abnormal rates of return. Whereas Koski [11] on the basis of his studies found a decreased variability of quotations after reverse split with narrower spreads. However that dependence did not concern companies with lower price than 2 USD. Martell & Webb [15] paid attention to other significant aspects of reverse split while analyzing NASDAQ market. They found that it is better to carry out reverse split with poor market than with good market conditions. Many studies applied to the problem of negative perception of reverse split operation by the market [e.g. 13; 2; 4; 9]. Other research also showed the aspect of reduced transaction costs on the American market after reverse split [18; 20].

Apart from the American market there are few studies on the effect of reverse split in the world. In the vast majority they confirm research results carried out on the American market. A negative effect of reverse split for companies carrying out reverse split on the stock in Hongkong was found by Jing [10]. The studies indicated negative surplus rates of return round the date of declaration and after reverse split. Similar conclusions for stock market in Sweden were made by Burnie, De Ridder and Rasbrant [3]. Contrary to most worldwide studies, Masse, Hanrahan & Kushner [16] mostly showed positive abnormal rates of return for the Canadian market before and after reverse split. Despite laborious searches the author has not found any study on the subject of the influence of reverse split operation on share quotations on the Polish stock market.

4. Influence of reverse split on share quotations on NewConnect

The studies have covered share quotations of fifteen companies which carried out the operations of reverse stock split on NewConnect market by the end of 2012. To picture the influence of reverse split on share rates a price index of share was constructed in which identical participation of all companies was assumed. Starting point was reducing the research time of each company to one common point (day zero), which was the last day of quotations before exchange. Share prices of each company were exchanged for price indices and their contractual value was ascribed as 100 points on the day before exchange. Thus the value of price index of the research group, counted as arithmetic mean of price indices of single shares, was equal to 100 points on that day as well.

The analysis covered an approximate period of six months before and six months after reverse split which corresponds to total 250 trading sessions (125 before and 125 sessions after reverse split). The analysis time for the companies Agroma and Aleja before reverse split was 79 and 104 days respectively, which resulted from length of company quotation from the moment of stock exchange debut to the operation of reverse split. For the companies Urlopy and Foneco studies of quotations after reverse split were reduced to 74 and 9 days respectively. In both cases the reason was flotation of new issues which resulted in temporal trading halt in stock turnover. It significantly affected share rate and volume of turnover after restart of quotations which made proper conducting of research and actual determination of force of the effect of reverse split impossible. All the companies subject to the analysis were penny stocks before the operations of reverse split. Their closing price before exchange was in the bracket: 1 to 32 grosz. As many as eleven issuers had their market share price lower than 10 grosz, and eight of them – even lower than 5 grosz. Prices of such 'penny stocks' are insensitive to general market conditions and many times they fluctuate in a random way. Increase or decrease of price by one grosz only means the change by several dozen percent in extreme circumstances. Due to limited research sample and characteristics of 'penny stocks', taking into account a relative force of share towards general index of market conditions and advanced statistical tests did not take place. It was assumed that with this kind of shares their application would not bring any analytic benefit. The studies show that within six months before reverse split mean price of analyzed companies depicted by price index was in a clear downward trend (Figure 1). In case of even nine companies, the decrease within six months before reverse split exceeded 30%. Shares of the company Aleja became cheaper in that period by over 73%. In the analogous period only the companies BPI and Foneco quoted increases by about 10% and shares of Veno did not change their value.

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[6] Analysis of reverse splits carried out on WSE will be the subject of a separate publication.
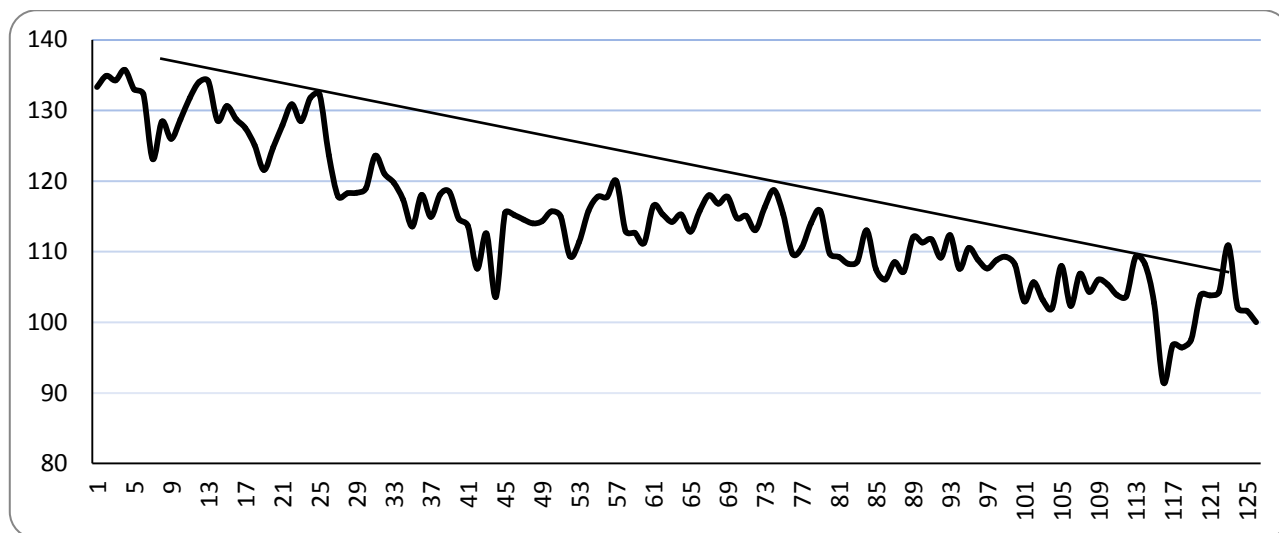
Figure 1. Mean share price before reverse split (Source: Own study)

It is worth emphasizing that price index from the last twenty trading sessions before trading halt indicates a clear increase of quotation variability without explicit downward trend. A few-day fluctuations reaching even 20% can be explained by growing fears of investors connected with the approaching operation of reverse stock split and necessity of suspending turnover for that period.
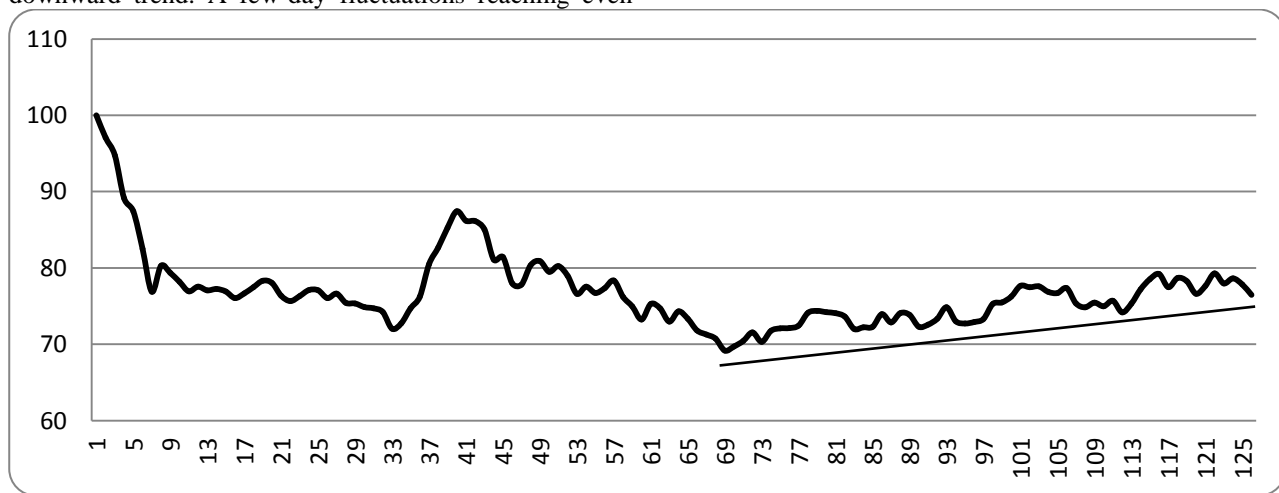

Figure 2. Mean share after reverse split (Source: Own study)

Reverse split did not stop decreases on analyzed securities (Figure 2). Within six months after reverse split in the vast majority of cases prices still kept on having downward trends and fell approximately by 23,5%. Shares of nine issuers in the studied period quoted serious decreases – from 30% (Apis) to even 78% (ATS Energy). In six cases increases were quoted and in three they did not reach 10%. Shares of the companies PCZ and Inbook increased by over 30% and an absolute leader was Kupiec, which exactly doubled its value.

Price index of companies show that most decreases took place within first 33 days when decrease mean was even 28% and was only slightly smaller than maximum mean decrease quoted on 69th day after reverse split. Definitely the biggest dynamics of decrease occurred within first six days after reverse split when the decrease was equal to over 23%.

It is also worth paying attention to two upwards trends of price index within the period covered by the analysis. The first clear rise of quotations lasting from 33 to 40 days after reverse split should be treated as a correction of previous big decreases. According to guidelines of technical analysis, the rise reached almost exactly half of the previous drops. Stable upward trend in the second part of the research period might suggest lack of negative effect of reverse split on rates of reverse split shares after the period of about three months.

Some interesting information is provided by initial analysis results of changes of volume of turnover after reverse stock split.[7] Comparing mean turnover in the period of 6 months before reverse split with mean turnover generated in the same period after that event, in case of nine companies a significant increase of volume was quoted. Share turnover of Urlopy, Kupiec and Cerabud increased by over 100% and shares of Veno and Pakademia – dozen or so. Among companies which quoted a reduced volume after reverse split, the companies Agroma and BPI stand out in a negative way. In their case significant decreases of turnover went hand in hand with significant price reductions.

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[7] Detailed analyses of changes of volume of trade after reverse split operations will be the subject of the next publication.
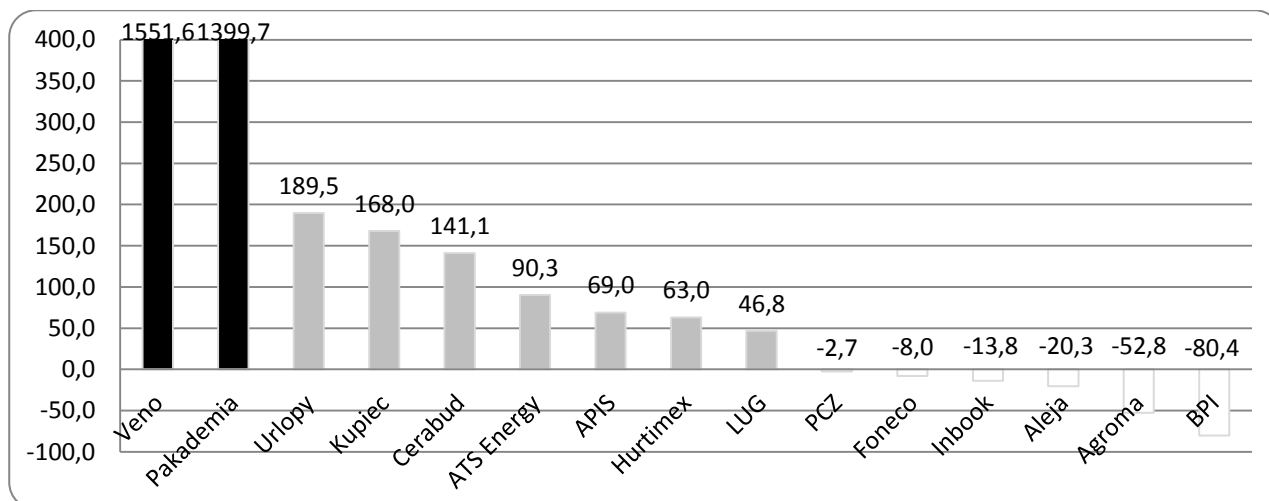
Figure 3: Mean change of volume of trade after reverse split (in %) (Source: Own study)

Conclusion

The research results prove occurrence of the negative influence of reverse split before and after the operation of reverse stock split on rates of shares quoted on the New-Connect market. Rate decreases occurring before reverse split were very significant in many cases and occasional cases of rate increases had a quite limited range. Last several days of turnover before share exchange were characterized by a growing variability of quotations. In most cases decreases were continued after restart of quotations, whereas quotations in the first six days had the biggest downward impetus. It is suggested by a very strong, short-term, negative effect of reverse split exhausting majority of downward potential. Confirmation of this is significantly reduced dynamics of continued decreases and determination by price index absolute minimums at slightly lower levels in later periods. The studies also show that RSS usually has a very beneficial influence on volume of turnover.

Deductions coming from the analysis do not allow to draw too far-reaching conclusions due to a limited research sample. The results cannot be regarded as fully representative since they cover only 15 cases. For reaching more complete conclusions it will be necessary to broaden research sample as well as to apply additional statistical tests. Studies continued in the future will cover an analysis of announcement of reverse split for share rates, variability of quotations and quantity of volume of turnover calculated for various periods before and after reverse stock split.

It is very probable that a base for research on the Polish stock market will significantly increase very soon. The board of WSE more and more often imposes necessity of carrying out reverse split on issuers. Just until the end of October 2013 next three companies quoted on NewConnect carried out RSS and a few other are preparing for such operation. More and more often companies from regulated market decide on reverse split as well.

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Асынгиэр Р. Влияние обратных сплитов на котировку акций на польском рынке NewConnect
Аннотация. Рынок NewConnect был создан, думая о новообразующихся обществах, с большим технологическим потенциалом и потенциалом развития, которые не отвечают требованиям регулируемого рынка. Низкие формальные требования, допущение к обороту акций эмитентов, привели к количественному росту этого рынка, но одновременно создали ряд нерегулярности его функционирования. Одним из самых важных факторов является большое количество мелких обществ, цены которых подвергаются значительным колебаниям. Эмитенты, согласно процедурам, разработанным организатором рынка, должны представить свои акции операции консолидации. Консолидация акций – обратный сплит (RSS) – уменьшение числа акций при одновременном пропорциональном повышении их номинальной стоимости. RSS не влияет на права акционеров, а также не меняет структуры акционариата. Несмотря на то, что это чисто техническая операция, исследования, проведенные в мире, показывают появление отрицательного «эффекта респлита». Цель работы заключается в проведении исследования литературы относительно эффекта консолидации акций проведенного на рынке, а также начало исследований с точки зрения влияния операции консолидации на курсы и число оборота акций котируемых на рынке NewConnect. Анализы, представленные в настоящей работе являются частью более широких исследований, касающихся функционирования польского рынка акций и будут продолжаться в будущем.

Keywords: Варшавская фондовая биржа, NewConnect, в многосторонних торговых системах, рынка капитала, обратного дробления акций, дешевые акции.